REMARKS

Applicant hereby responds to the Office Action of May 4, 2007, in the above-referenced patent application. Applicant thanks the Examiner for carefully considering the application and for indicating that claims 2-5, 7-10, 12, 14, 16-24, and 26-28 contain allowable subject matter.

Disposition of Claims

Claims 1-28 are pending. Claims 1 and 15 are independent.

Allowable Subject Matter

As indicated in the instant Office Action, claims 2-5, 7-10, 12, 14, 16-24, and 26-28 contain allowable subject matter and would be allowable if rewritten in independent form. As discussed below, the base claims 1 and 15 are believed allowable. Thus, rewriting claims 2-5, 7-10, 12, 14, 16-24, and 26-28 in independent form is deferred at this time.

Claim Amendments

By way of this reply, claims 1-12, 14-26, and 28 have been amended to correct minor informalities. No new matter has been added and none of the amendments is made in view of prior art.

Claim Objections

Claim 19 was objected to for a typographical error. By way of this reply, the typographical error as pointed out by the Examiner has been corrected. Accordingly, withdrawal of the objection to claim 19 is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1, 6, 11, 13, 15 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,617,149 ("Lee") in view of U.S. Patent No. 6,847,408 ("Webb"). The rejections are respectfully traversed because for at least the following reasons, Lee and Webb, alone or in combination, fail to show or suggest the claimed invention. In addition, there is no motivation or suggestion to combine Lee with Webb.

The claimed invention is directed to detecting an opaque image, e.g., logos, within digital video images. Independent claims 1 and 15 each require, in part, (i) calculating a "stochastic measure" of an area of a frame "based on the standard deviation of differences in pixel values" in two frames in the temporal domain; and (ii) detecting "an opaque image" by "comparing the stochastic measure" with a given noise level.

For at least the following reasons, it is respectfully submitted that Lee and Webb, alone or in combination, fail to show or suggest at least the above-mentioned limitations (i) and (ii).

The instant Office Action (page 2, lines 15-16) asserts that Lee discloses a method of detecting "an opaque image" as claimed. Applicant respectfully disagrees. Lee is, in fact, completely silent with respect to detecting "an opaque image" as claimed. This is not surprising as Lee is directed to detecting scene changes, and has nothing to do with detecting logos. Thus, there is no need in Lee to deal with "an opaque image" as claimed.

The instant Office Action (page 2, line 21 through page 3, line 2) further asserts that Lee discloses calculating a "stochastic measure" as claimed. Applicant again respectfully disagrees. Lee discloses calculating the mean absolute value (MAD) and the difference mean absolute value (dMAD). However, MAD and dMAD are not stochastic functions. From the definition of MAD as provided by Lee,

$$\mathrm{MAD} = \left\{ \sum_{j=0}^{N-1} \sum_{i=0}^{M-1} |f_n(i,j) - f_{n-1}(i,j)| \right\} \times \mathrm{FACTOR}$$

it is clear that MAD is *not* a stochastic measure because for a non-stochastic image change, *e.g.*, for an image signal $f_n(i,j)$ in Lee that is predictably, linearly and continuously increasing from frame (n-1) to frame (n), the MAD defined above would still yield a large, positive number, indicating that MAD is not stochastic. Indeed, MAD merely indicates a *total* change from frame to frame, and has nothing to do with a "stochastic measure" as claimed. Further, by definition, dMAD = MAD(n) – MAD(n-1), which is also a *non-stochastic* measure as it is merely a difference between two non-stochastic functions. On the other hand, the Examiner has failed to meet the burden of showing how MAD and dMAD can possibly, in any ways, be related to "stochastic measures" as claimed. If the Examiner has drawn the conclusion that MAD and dMAD are stochastic based on his personal knowledge, Applicant hereby respectfully requests that an affidavit be submitted under 37 CFR 1.104(d)(2). In view of the above, Lee fails to show or suggest at least the above-mentioned limitations (ii).

Moreover, contrary to the instant Office Action's assertions, Lee is actually silent with respect to the "standard deviation" as claimed. Thus, Lee also fails to show or suggest the above-mentioned limitations (i).

Webb, which is directed to *reducing* noise in an image sequence, also fails to show or suggest the above-mentioned claimed limitations (i) and (ii), and fails to supply that which Lee lacks. This is also evidenced by the fact that Webb was relied upon by the instant Office Action merely to supply a "given noise level."

Indeed, Webb, as in Lee discussed above, does not deal with "logo" effects and is completely silent with respect to "an opaque image" as claimed. In addition, Webb is silent with respect to a "stochastic measure" and the "standard deviation" as claimed. The system of Webb reduces noise in an image sequence by filtering the images on an area-by-area or pixel-by-pixel basis, where the filtering is done by comparing a pixel value change with a threshold (*see*, *e.g.*, Abstract of Webb).

Furthermore, Applicant respectfully submits that there is no reason given in the instant Office Action for any motivation or suggestion to combine Lee and Webb. The instant Office Action simply asserts that such a combination would result in a reduction in image noise. However, the noise level as used in the claimed invention is for *detecting* an opaque image such as a logo. Both Lee and Webb are completely silent with respect to the logo. Lee does not deal with noise at all, and Webb intends to reduce image noise but does not provide a "given noise level" as claimed.

In view of the above, Lee and Webb, whether considered separately or in combination, fail to show or suggest the claimed invention as recited in independent claims 1 and 15 of the present application. In addition, there is no motivation or suggestion to combine Lee and Webb. Thus, independent claims 1 and 15 of the present application are patentable over Lee and Webb for at least the reasons set forth above. Dependent claims 6, 11, 13 and 25 are allowable for at least the same reasons. Accordingly, withdrawal of the rejections of 1, 6, 11, 13, 15 and 25 is respectfully requested.

CONCLUSION

For these and other reasons, Applicant believes that the claims are in condition for allowance. Re-examination, reconsideration and allowance of the claims are respectfully requested

If the Examiner believes that a telephone interview will help further the prosecution of this case, Applicant respectfully requests that the undersigned attorney be contacted at the listed telephone number.

Please direct all correspondence to **Myers, Dawes Andras & Sherman, LLP**, 19900 MacArthur Blvd., 11th Floor, Irvine, California 92612.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: July 12, 2007.

By: Jessica Fisher

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Signature

Respectfully submitted,

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